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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,330	01/18/2002	Tsuneo Kawaguchi	Q68051	5811

7590 04/18/2003

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EXAMINER

JONES, JUDSON

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 04/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/031,330

Applicant(s)

KAWAGUCHI ET AL.

Examiner

Judson H. Jones

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 0102.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiyoshi et al. 4,797,526 A in view of Hazelton et al. 6,323,567 A and Hartzell, Jr. et al. 5,834,862 A. Kiyoshi discloses a linear motor used in an electric discharge machining apparatus but does not disclose details of the motor. Hazelton et al. discloses a linear motor used in precision work as described in column 1 lines 20-22. Since Kiyoshi et al. is interested in accuracy as described in the abstract and since Kiyoshi does not disclose any specific motor to be used, it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized the linear motor of Hazelton et al. in the device of Kiyoshi et al. The apparatus of Kiyoshi et al. as modified by Hazelton et al. discloses a permanent magnet shaft 18 and an electro-magnetic array

16 cooled by a fluid but does not disclose compressed gas being used as the fluid. In column 9 lines 23-35 Hazelton et al. mentions Flourinert type FC-77 as this fluid is suitable for cooling a specific linear motor moving a wafer stage in a semi-conductor exposure apparatus where even a small amount of heat could result in distortion of the printed circuit pattern. Hartzell, Jr. discloses in column 1 lines 5-27 that compressed air provides a low cost cooling system. Since Hartzell, Jr. and Hazelton et al. are from the same field of endeavor, it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized compressed air as the cooling fluid in place of Flourinert type FC-77 in order to reduce the cost of the cooling system in a system where compressed air would be sufficient for cooling a linear motor driving a given mass for a given distance. In regard to the claim language of a "base plate formed with at least one hole portion" and a "magnet supporting plate" with a spacer between the two plates, the drawings of Hazelton et al. show a circular motor. However in column 4 lines 55-60 Hazelton et al. teaches that "the coil assembly and magnet housing could have a rectangular shaped cross-section." In a rectangular housing, each side wall of the housing could be considered as a base plate and each side of the electro-magnetic plate could be considered as a magnet supporting plate. Hazelton et al. column 6 lines 55-64 describes spacers used to space the coil assembly apart from the housing.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiyoshi as modified by Hazelton et al. and Hartzell, Jr. as applied to claim 2 above, and further in view of Sedgewick et al. 5,998,890 A. Kiyoshi et al. as modified by Hazelton et al. and Hartzell, Jr. discloses the electric discharge machining apparatus with the compressed gas cooling means but does not disclose a cooling fin on the magnet supporting plate. Sedgewick et al. teaches in

column 6 lines 16 ½-19 ½ that fins enhance cooling. Since Sedgewick et al. and Kiyoshi as modified by Hazelton et al. and Hartzell, Jr. are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized fins in a compressed gas cooling system in order to increase the effectiveness of the cooling.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiyoshi as modified by Hazelton et al. and Hartzell, Jr. as applied to claim 2 above, and further in view of Parison et al. 5,701,039 A. Kiyoshi et al. as modified by Hazelton et al. and Hartzell, Jr. discloses the electric discharge machining apparatus with the compressed gas cooling means but does not disclose a dust cover. Parison et al. teaches using a dust cover with a linear motor in order to protect the inside of the linear motor from dust. Since Parison et al. and Kiyoshi as modified by Hazelton et al. and Hartzell, Jr. are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized a dust cover in an electric discharge machining apparatus to protect the inside of the motor from dust.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judson H Jones whose telephone number is 703-308-0115. The examiner can normally be reached on 8-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3431 for regular communications and 703-305-3432 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JHJ *JHJ*  
April 15, 2003

*[Signature]*  
NESTOR RAMIREZ  
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